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September 22, 1999

CALFED Bay-Delta Program
c/o Rick Breitenbach
1416 Ninth St., Suite 115
Sacramento, CA 95814

Re: Submittal of Comments on the Draft Programmatic EIS/EIR

Dear Mr. Breitenbach:

I am pleased to submit comments in response to your invitation to comment on the Draft Programmatic EIS/EIR for the Program. I am submitting them on behalf of Plumas County and its Board of Supervisors.

The County of Plumas is looking forward to a substantial revision of the Draft, following the Program's review of the overall public response to the Draft. Plumas County is open to this evolving process, which should result in long-term protection for the waters of the north state and the Feather River watershed.

We believe that the Draft is salvageable. Much progress has been made in collecting information and preparing a framework for decision, but much remains to be done, especially in terms of managing the "insatiable" demand for water that jeopardizes every aspect of the Bay-Delta's ecological health. In this regard, the "Monterey Agreement", currently subject to litigation, should be recognized as an unreliable foundation for the "No Action" alternative.

I request that you, or any other interested person at CALFED, contact me if you have any questions, or need any assistance in the future. Thank you for your anticipated review of Plumas County's comments.

Very truly yours,

Robert Shulman

Robert Shulman
Plumas County Counsel

cc: (partial list)
Mary Nichols, Resources Secretary of California
Members, Plumas County Board of Supervisors
Michael Jackson, Special Counsel
Antonio Rossman, Special Counsel

A. INTRODUCTION

This Draft PEIR/EIS can be salvaged.

Plumas County welcomes the opportunity to comment on the Draft PEIR/EIS, and appreciates the effort that has been expended to produce the Document. The Document is long on information, but short on analysis needed to support specific decisions.

The Document does not yet fulfill its intended purpose to develop a plan to restore the Delta's ecological health, by water management in the "Solution Area".

Below, we address problems with the PEIR/EIS generally, recommend improvements to the Watershed Program, and rectify inaccuracies in the Document's characterization of the upper Feather Watershed.

Recommendations for improving the Draft PEIR/EIS conclude our comments.

B. PURPOSE

The purpose of the CALFED Program is to develop and implement a long-term comprehensive plan that will restore ecological health and improve water management for beneficial uses of the Bay-Delta system. (P1-6)

C. PROBLEMS

The PEIR/EIS does not fulfill it's intended purpose to develop and implement a plan to restore the ecological health of the Delta, through improved water management for beneficial uses of the Bay-Delta system. This has not occurred for the following three reasons:

1.THE PEIR/EIS DOES NOT DESCRIBE AN ALTERNATIVE THAT WILL RESTORE ECOLOGICAL HEALTH TO THE DELTA.

2. THE PEIR/EIS DOES NOT PROVIDE A LONG TERM OR COMPREHENSIVE PLAN.

3.THE PEIR/EIS DOES NOT PROVIDE A PLAN FOR WATER MANAGEMENT THAT WILL IMPROVE BENEFICIAL USES OF THE BAY-DELTA SYSTEM.

1. THE PEIR/EIS DOES NOT DESCRIBE AN ALTERNATIVE THAT WILL RESTORE ECOLOGICAL HEALTH TO THE DELTA.

The attached Table 3-8 titled, *"Summary of Potentially Significant Adverse Cumulative Impacts"* (p.3-28). depicts the Preferred Alternative as adversely impacting the Delta in all 19 significant ways listed in the table. The PEIS/EIR argues that the Preferred Alternative has relatively fewer adverse impacts than the other alternatives. (pp.2-21-2. - 23)

An alternative conclusion might be that the range of alternatives in the PEIR/EIS is not broad enough to include an alternative that could feasibly result in ecological improvements in the Delta.

2. THE PEIR/EIS DOES NOT PROVIDE A LONG TERM OR COMPREHENSIVE PLAN.

The CALFED EIR/EIS fails to provide sufficient analysis and evidence to support a Record of Decision (ROD) for a 30 year Program.

In the Programmatic Document, several programmatic level decisions that are essential for implementing the chosen alternative and achieving the predicted benefits, are not analyzed in the EIR/EIS. Instead, they are deferred until after the public comment period is closed. The CALFED EIR/EIS fails to describe how deferred decisions will be made. CEQA and NEPA require that the CALFED agencies provide opportunities for the public to review and comment on programmatic decisions as they are developed in enough detail for meaningful public comment. The EIR/EIS is deficient because it does not describe how the future decision-making will occur, nor does it analyze the effects of proceeding to a programmatic ROD before essential information about essential program components is available for analysis and public comment.

Examples of deferred and significant programmatic decisions include the 30 yr. governance structure, the 30 yr. financing and cost-sharing package, the 30 yr. assurances package, and the public involvement and decision-making process that will be used for approving or disapproving the completion of a peripheral canal, new storage facilities and a water transfer market.

The Plumas County Board of Supervisors opposes a 30-yr. ROD because the PEIR/EIS fails to provide enough information to disclose and analyze essential programmatic level decisions 30 years into the future. Thirty years is the proposed scope of the CALFED PEIS/EIR document, which is premature, given the level and quality of analysis presented in the Document.

CALFED, in some cases, is proposing to use project level NEPA and CEQA analyses or an adaptive management and decision-making process to address these future programmatic decisions. Adaptive management and project-level CEQA/NEPA decision-making processes are not legally sufficient alternatives to full disclosure of the

environmental effects of significant programmatic decisions in the Programmatic EIS/EIR.

In Laurel Heights Improvement Association v. Regents of the University of California (1988)47 Cal.3d376, 393-3999[253 Cal. Rptr. 426], the Court found that "an EIR must include analysis of the environmental effects of future expansion or other action if (1)it is a reasonably foreseeable consequence of the initial project; and (2)the future expansion or action will be significant in that it will likely change the scope or nature of the initial project or its environmental effects....[a]n EIR must include detail sufficient to enable those who did not participate in its participation to understand and consider meaningful issues raised by the proposed project."

3.THE PEIR/EIS DOES NOT PROVIDE A PLAN FOR WATER MANAGEMENT THAT WILL IMPROVE BENEFICIAL USES OF THE BAY-DELTA SYSTEM.

(a) The "Least Harm" Alternative is buried within the other conveyance alternatives.
(b)The No Action Alternative includes significant and controversial actions.
(c)The modeling assumptions used to frame the conveyance alternatives include significant and controversial actions.
(d)Conveyance is not the most significant CEQA/NEPA decision.

3(a). The "Least Harm" Alternative is buried within the other conveyance alternatives.

The Document states on pg.2-1 that, t*he four Program alternatives represent different approaches to conveying water through the Delta. Each of the alternatives includes the Ecosystem Restoration, Water Quality, Levee System Integrity, Water Use Efficiency, Water Transfer, Watershed Storage, and Conveyance elements. Each Program alternative includes an assessment with storage up to 6 MAF and without storage. Because the problem being addressed by the Program and the solution are closely interrelated, the description of each of the Program elements except for the Conveyance element, do not vary among alternatives."*

One would expect that the solution and the problem would be interrelated, otherwise the solution would be irrelevant. Inter-related problems and solutions are not logical reasons for limiting the range of alternatives under CEQA. The Common Program is incorporated into all the rest of the alternatives and thereby becomes a "wash", in terms of differentiating between the alternatives.

The PEIR/EIS fails to provide a range of alternatives that are distinguished by the degree to which they reduce environmental damage in the Delta or improve beneficial uses of water in the Delta. The Preferred Alternative is the least environmental damaging alternative of the alternatives presented, but the least environmental harm alternative is not presented in the document as an alternative at but rather, it is incorporated into the PEIR/EIS as the Common Program.

The Common Program is never analyzed in its own right. The Common Program is not analyzed either within the alternatives or separately, as a separate alternative, for its potential (at different levels of program emphasis and support) to reduce water use conflicts in the Delta and to improve the ecological health of the Delta.

The document states that, *"although the Program elements common to all alternatives would improve and increase aquatic habitat and improve ecological processes in the Bay-Delta, potentially significant and unavoidable impacts are associated with implementing the Conveyance element under Alternatives 1,2, and 3." (p6.1-57)*

As the program describes the effects of the Program Alternatives, "*increased water deliveries would limit the ability of other program elements, for example actions in the Ecosystem Restoration Program to re-establish basic hydrologic features necessary to reactivate and maintain the ecological processes and structures that sustain healthy aquatic communities...Additional diversions including exports, could directly increase entrainment losses and contribute to net Delta flow conditions that may reduce productivity, impair species movement, and increase entrainment in Delta diversions. Most species are potentially affected including chinook salmon, delta smelt, steelhead, and striped bass..."For the Other, SWP and CVP service areas additional water deliveries under the Program Alternatives may induce municipal, industrial, or agricultural development." . (p6.1-57)*

The Plumas County Board of Supervisors believes that the PEIR/EIS fails to provide the Army Corps of Engineers and the EPA with a Least Environmental Harm Alternative as required in Section 404 of the Clean Water Act, because there is no alternative that reduces exports from the Delta. Although it is stated in the PEIR/EIS, that the Section 404 permit will be accomplished at a later time, the way that the alternatives are framed does not allow a least Environmental Harm Alternative to be described, analyzed and evaluated. With the Common Program held at some common and unanalyzed and undifferentiated level of effect- it is impossible to determine what the least environmental harm alternative could be.

Each of the alternatives reduces demands and conflicts in the Delta in the same way, by the same level of implementation of the Common Program. Each of the alternatives reduce demands and conflicts in the Delta in the same way, by expanding water supplies through up to 6 MAF of additional storage.

The Common Program increases the effectiveness of the existing system, throughout the solution area and, thereby, reduces pressures on threatened and endangered species in the Delta, and reduces water conflicts in the Delta. For example, reduced water exports could result from better conservation and better management of high quality drinking water in the Delta and throughout the CVP and SWP service area. Reduced water exports can reduce conflicts over Delta water uses and improve hydrologic and habitat conditions in the Delta.

- The PEIR/EIS fails to provide an export reduction alternative.

In Kings County Farm Bureau v. City of Hanford (5th Dist. 1990) 221 Cakl.App.3d 692, 733 [270 CalRptr. 650] the court found that a legally adequate EIR "must contain sufficient detail to help ensure the integrity of the process of decisionmaking by precluding stubborn problems or serious criticism from being swept under the rug....A conclusory statement unsupported by empirical or experimental data, scientific authorities, or explanatory information of any kind' not only fails to crystallize issues but affords no basis for the comparison of problems involved with the project and the difficulties involved with the alternatives.... The EIR must reflect the analytic route the agency traveled from evidence to action"

3(b). The No Action Alternative includes significant and controversial actions.

The No Action Alternative includes increased exports from the Delta, which is a significant action. "*Increased annual exports by as much as 370TAF....would result from higher demands on the Bay-Delta system" (p.3-8)* In another section of the PEIR/EIS , states that "*by 2020, state-wide water use is projected to increase from 79.9MAF (based on 1995* [Estimated*] demands) to 80.50 MAF during near-normal years, and from 64.79 to 65.96 MAF during drought years...reductions in alternative supplies and proportionately larger increases in urban area demands would result in increased overall demands for Delta exports. As a result, total annual demands for Delta exports could increase from the current range of 5.9-6.9 MAF to a range of 7.1-7.6 MAF in 2020, depending on the annual hydrology. The No Action Alternative supplements the existing conditions with some re-operation of system facilities to accommodate changes of flow and timing resulting from 2020 demands....Increased Delta export demands are projected to be satisfied largely by increased south Delta pumping during August through March in near-normal and wet years, and December through February in dry and critical years.(p. 5.3-21)*

- The "No Action" range of exports is defined inconsistently in the Document.

For example, it important to note the difference between +370 TAF (p 3-8) in one description of increased exports in the No Action Alternative and +700TAF to +1.2MAF increase in exports under the No Action Alternative in another place in the Document (p.5.3-21).

- The procedures used for arriving at the 1995 levels of demand in B-160 are controversial.

Dennis O'Connor, senior economist with the Congressional Research Bureau, estimates that DWR's Bulletin-160 1995 water demand figures are overestimated by approximately 1MAF. The "No Action Alternative" increases deliveries by approximately 1MAF by overestimating actual urban demand by approximately 1MAF.

The No Action Alternative also includes many other programmatic assumptions about whether regulatory protection for T&E species or increased demand (i.e. exports) will dominate Delta management in the next 30 years -in the absence of CALFED. These assumptions are used to formulate the Criteria "A" and "B" "bookends" of a probable range of uncertainty in predicting California's water situation and the health of the Bay-Delta in 2020 -without a CALFED Program.

- The "A" and "B" criteria are not disclosed in sufficient detail to allow an independent assessment of how the "A" and "B" numbers were derived and what they really mean.

The PEIR/EIS states that, *"In general, qualitative methods were used to assess impacts from implementation of the Ecosystem Restoration, Water Quality, Levee System Integrity, Water Use Efficiency, Water Transfer, and Watershed Programs. Because of availability of appropriate models, quantitative methods were used to assess impacts from implementation of the Storage and Conveyance Elements". (p. A-6).*

These are significant inconsistencies, which should be explained and analyzed for their effects on the ecological health of the Delta, rather than being swept under the rug as in the "No Action Alternative". The PEIR/EIS also fails to provide a solution, such as a developing a water budget that would facilitate the development of "appropriate models" for the quantification of the impacts of the Common Program. The CALFED Document maintains a programmatic bias toward engineered solutions, by an unwillingness to develop quantifiable models for the Common Program.

3(c).The assumptions used to frame the conveyance alternatives include significant and controversial actions.

- The PEIR/EIS Alternatives includes irreconcilable approaches to reducing demand in ways that improve environmental conditions in the Delta.

On page 7.5-38 the PEIR/EIS states that in Criteria A, *"The shortages for the No Action Alternative...would be eliminated by the Water Use Efficiency Program....*Then on page 7.5-38 it is stated that, *"DWR's LCPSIM allows new water supplies to replace conservation and recycled water..."*

The PEIR/EIS also makes the assumption that water use efficiency may not reduce Delta exports. The PEIR/EIS makes this assumption without disclosing that assumptions about the legality of the Monterey Agreement and the Joint Points of Diversion underlie the following statement about the limited effect of water use efficiency on water conflicts in the Delta. Cal-Fed EIR/EIS states on pages 5.1-32 and 5.1-33 that, *"The effects of water use efficiency would be similar to those of reduced water demand within a given area. However, the Water Use Efficiency Program would nor necessarily equate to reduced demand from a statewide perspective. Specifically, reduced demand would not be directly proportional to reduced Delta exports. Reduced demand would simply increase*

available consumption in another region of the state. This effect would be largely contingent upon the water-year type and delivery timing. For instance, if urban demand in the South Coast Region were reduced during a dry or critical water year, demands elsewhere in the state would be such that the foregone South Coast deliveries could be allocated to agriculture or urban consumption anywhere in the CVP and SWP service areas."

- The Peripheral Canal is analyzed as an alternative in the PEIR/EIS, in Alternative 3, but the first leg of the Canal is also included in three of the four conveyance alternatives, which is a significant and unanalyzed change from the last Draft EIR/EIS.

The Plumas County Board of Supervisors believes that the PEIR/EIS makes two unsubstantiated assumptions about the Peripheral Canal. First, CALFED assumes that building the first 1/4 of the Canal will not affect the decision about whether to build the rest of the Canal. The Peripheral Canal is very controversial. CALFED should not assume that building a smaller or phased Peripheral Canal is so uncontroversial that is doesn't have to be analyzed. The Plumas County Board of Supervisors does not believe that controversy is reduced to insignificance by only starting to build the Canal (or by deciding to study if and when to build the first leg of the Canal, and then building it without reopening the decision for public comment).

- The equally significant question of whether the Peripheral Canal will displace exports from the pumps or augment exports from the pumps is revealed under modeling assumptions for the alternatives, rather than disclosed and analyzed forthrightly in the Document.

In the *"Isolated Facility Criteria #2", "the Isolated facility is not included in export restrictions" (p. A-13)* In Criteria #1, *"The Isolated Conveyance is included in export restrictions" (p. A-13)* . In the "North Delta Criteria" on p. A-13 Peripheral Canal diversions at Hood vary from 50%(Criteria #1) to 100% (Criteria #2) of South Delta Exports.

These two actions- the Peripheral Canal and the Delta Export exemptions- are logically related and should be fully analyzed, both separately and together, for their impacts on the ecological health of the Delta. The "cap on exports " issue is an especially controversial element of the already controversial Peripheral Canal and needs to be fully disclosed and analyzed.

- The PEIR/EIS defines water supply reliability as full deliveries of contract water to CVP and SWP contractors who are junior water rights holders. *"Water supply reliability was assessed relative to the degree and frequency at which the facilities and associated operations criteria are able to meet future water demands....For this analysis, SWP and CVP water users were used as surrogates for all potential water supply beneficiaries." (p.5.1-25)*

Plumas County does not feel that SWP and CVP water users represent the County's interest, or the interests of any "area of origin" water user's future demands, and questions the "analytic route" that CALFED used to make that assumption.

- Finally, Plumas County is concerned about the seeming over-reliance on certain water rights decisions in the conveyance Alternatives which are, in fact, still undecided by the StateWater Resources Control Board (SWRCB). This is especially disconcerting because SWRCB staff sits on the CALFED Policy Group. The Policy Group is, in fact, a decision-making group whose authority will be expanded in the 30 year Governance Structure for CALFED that is proposed in the Implementation Plan (pp.41-49).

The Plumas Board has the following question: Is CALFED's reliance on certain SWRCB water rights decisions such as *"full and unlimited joint point of diversion" (p.A-13)* for **both** Criterion A and Criterion B in the conveyance Alternatives, an attempt to influence decision-making by the SWRCB? Embedding hoped-for SWRCB decisions into the conveyance Alternatives is a significant and controversial assumption.

The Plumas County Board feels that CAFED's programmatic bias towards certain SWRCB water rights decisions must be disclosed and remedied. The Plumas County Board strongly recommends that CALFED analyze the effects of all of the SWRCB water rights decision alternatives on the CALFED Common Program and on the CALFED PEIR/EIS alternatives. In addition, all proposals in Stagel Actions in the PEIR/EIS should be deleted which:

- **construct any aspect of the Hood intake and pilot Peripheral Canal (#16 Table 3.1, and #3, p.130 and #1&2, p.131, Phase 11),**
- **construct Joint Points (#5,6 Table 3.1 and #4&5 p.129 Phase 11.) or**
- **implement VAMP (#3.9 Table 3.1).**

(These actions are listed in Table 3.1 of the Implementation Plan and further described on pp. 129, 130 & 131 of the Revised Phase 11 Report).

It is unrealistic and misleading to portray those actions as implementable during the first 7 years of the CALFED Program when, in fact. they are controversial and significant actions which require water rights permits from the SWRCB. The PEIR/EIS fails to disclose that the SWRCB has not rendered a decision which has been upheld by the courts on either the Joint Points, Vamp or export exemption issues for the Peripheral Canal.

"Under Federal case law interpreting the National Environmental Policy Act ('NEPA') (42USCSS4321 et seq.) an EIS should be 'an essentially self-contained instrument, capable of being understood by the reader without the need for undue cross-reference.' (Baltimore Gas & Electric Co. v. Natural Resources Defense Council (1983) 462 U.S> 87, 99-101, fns. 12, 13[103S.Ct.2246].

3.(d) Conveyance is not the most significant CEQA/NEPA Decision.

Were the Document analyzing a full range of alternatives, as required by CEQA and NEPA, the PEIR/EIS might have disclosed how differentiated levels of programmatic effort in the Common Program (both as a separate alternative **and** within the conveyance alternatives), could have reduced conflicts and improved environmental conditions in the Delta.

- Analyzing conveyance, as if conveyance was the only important "decision " for the CALFED Program,
- using the junior water rights water users as surrogates for all potential water supply beneficiaries, and
- pre-selecting the same SWRCB water rights decisions for both Criteria A and Criteria B in the conveyance Alternatives are three examples of the unsubstantiated assumptions and an illogical conclusions that render subsequent alternatives analyses in the document meaningless.

The PEIR/EIS never discloses how any of the Alternatives provide different answers to fundamental water supply, water demand, and water quality questions. CALFED never discloses or analyzes how assumptions about the future of California Water Law, (including "reasonable use", area of Origin, senior-junior water rights and the Public Trust Doctrine), and VAMP, Joint Points of Use, and the Monterey Agreement, etc.) affect how successfully the CALFED Alternatives reduce or do not reduce conflicts in the Delta, and improve or do not improve environmental conditions in the Delta. These are truly "problems swept under the rug" through a narrowed range of alternatives.

Additional storage, conjunctive surface and ground water use, an active water transfers market, as well as other significant effects and actions are not analyzed in the Document for their effects on the PEIR/EIS Problem Statement (e.g. the ecological health of the Delta and water conflicts in the Delta).

Storage, conjunctive use and water transfers, may be accurately described in the Document, as not having a significant affect on the conveyance alternatives. However, it is illogical for the PEIR/EIS to then conclude that because there is not a significant effect on the conveyance alternatives, that there is not a significant effect from these Program elements on the Delta..

"An EIR may not define a purpose for a project and then remove from consideration those matters necessary to the assessment of whether the purpose can be achieved For ***(County of Inyo v. City of Los Angeles (3rd Dist. 1981) 124 Cal.App.3d1, 7-9 [177 Cal.Rptr. 479].[A] curtailed , enigmatic or unstable project description draws a red herring across the path of public input."(71*** Cal.App.3d@197-198 ***[139 Cal.Rptr.396] (County of Inyo v. City of Los Angeles***

D. RECOMMENDATIONS

The Plumas County Board of Supervisors believes the serious problems described above, can be remedied by the following recommended actions.

PROGRAMMATIC RECOMMENDATIONS

(1) **Limit the Record of Decision (ROD) to the first 7 years,** which are outlined in the Sage 1 Actions in the Implementation Plan. Amend the 7 year ROD to delete construction of the Hood intake and the canal, implementation of Joint Points, VAMP and the implementation of the Monterey Agreement.

(2) **Expand the range of alternatives** to include:

- an Export Reduction Alternative
- a "Common Program" Alternative and
- a "No Action Alternative" without significant and controversial actions.

(3) Redo the baseline analysis for urban and agricultural water demand using existing 1995 data, rather than the 1995 modeling figures used B-169-98. On the basis of revised 1995 estimates, revise 2020 demand estimates.

Develop baseline analysis and develop a "Baseline Conditions"baseline that collects and displays pre-CVP and SWP environmental conditions in the Delta, to allow comparison with the "Existing Conditions" and "No Action" baselines.

- Currently historical environmental baseline information is scattered throughout the Document.
- Existing conditions are unacceptable (necessitating the CALFED Program in the first place) and therefore provide little in the way of comparison in terms of the problem the EIR/EIS is trying to solve.
- The Documents states that the No Action and the Existing Conditions are almost identical. The No Action Alternative is nearly unintelligible to someone who was not involved in developing the PEIR/EIS. It is described differently in different places and it selectively incorporates other documents and actions without disclosure

(4) **CALFED Program needs to concentrate on implementing a Water Budget over the first 7 years of the Program.**

- A water budget would help resolve the inadequacy of qualitative data for the Common Program.
- A water budget would provide a scientific basis for determining 3rd party impacts for conjunctive use and water transfer proposals and projects.
- A water budget would shed light on the currently confusing water quality discussions in the Document.

For example, the PEIR/EIS states on page 7.5-23 that modeling *"Results showed that economic benefits of Program alternatives depend significantly on baseline water quality within service areas. These levels may be substantially affected by actions between now and 2020, such as the development of recycling capacity, implementation of RO [*reverse osmosis*], and adoption of water softeners. Economic results are especially sensitive to the amount of RO capacity in place in 2020."* The PEIR/EIS states on page 7-.5-22, that *"Water quality and related water treatment costs could be affected by the Water Quality, Ecosystem Restoration, Watershed, Storage, and Conveyance Elements. Quantitative Analysis of water quality changes is available only for the Conveyance Element, and quantitative economic analysis is possible only for salinity. Therefore, a comprehensive analysis of costs and benefits is not possible."*

Other States such as Washington and Nevada have developed water budgets to shed light on these important issues. California should develop a water budget to facilitate a "level playing field" for the evaluation of a full range of alternatives.

(5) **The Plumas Board of Supervisors wants two fundamental Assurances in the ROD**:

- The existing water rights system of senior and junior rights and Area of Origin and Delta protections must be upheld and enforced for the duration of the ROD- for 7 or 30 years.

- Decisions on the constructing the intake structure at Hood, implementing Joint Points of Diversion, implementing export restriction limits for the partial or full Peripheral Canal, and constructing the first leg of the Peripheral Canal, will be opened for public comment under the CEQA and NEPA processes, rather than being triggered by some yet-to-be-defined alternative decisionmaking process.

(6) Although the finance and governance sections are too premature for the Plumas County to make meaningful comments, Plumas County suggests that the financing cost-benefit analysis start with a statewide benefit floor of around $1200 /acre foot, the cost for new storage that can be inferred from p.7.5-3, which states that *"Total costs of the storage and conveyance components are estimated at 4-12 billion"* for 1MAF of additional supply- or whatever the real numbers may be. The cost effectiveness of new water projects can then be compared to the ability of the Common Program to "avoid" those costs. The Common Program and new water supply augmentation facilities that are cost-effective at a $1200/ acre foot cost (to the CALFED Program) can then be directly compared to each other in terms of the CALFED program Solution Principles, and in terms of their relative impact on water conflicts and environmental improvements in the Delta.

(7) To encourage projects to achieve multiple program objectives, include a pooled funds category in the final finance package.

(8) Reconsider the assumption that *"Long term demand management options that are adopted by water users can have a demand 'hardening' effect...This occurs because*

these options tend to reduce the 'slack' in the system (that is, reduce or eliminate the least valuable water uses and/or the least efficient water use methods)....For LCPSIM runs the hardening factor was assumed to be 50%." (p.7.5-49) To provide more meaningful analysis, also present water management options using the California energy example. In the California energy program, conservation is treated as "hard" baseload, just like new energy production facilities or new water storage facilities. Water transfers are used for satisfying peak water demand, just like energy "wheeling" is used for peak or variable energy demand. Emergency energy protection relies on dispersed mobile supply sources, which, in a water analog, would be water sources such as local groundwater, water transfers, and bottled or tankered water which could be collected and treated at the terminal CVP and SWP reservoirs and shipped where it is needed -in an emergency.

(9) **Eliminate redirected impacts resulting from current "surplus and abandoned" water policies, and source water quality improvement policies.**

On page7.5-31, CALFED states that *"The CVPIA may increase SWP supplies, depending upon the amount of dedicated [*environmental*]water that can be exported out of the Delta."* **The Plumas County Board of Supervisors strenuously opposes using regulatory environmental water for any other purpose than environmental purposes.**

Current policies pertaining to "surplus" or "abandoned" (e.g. export uses) of regulatory environmental water released from upstream senior and "area of origin" water rights holders for environmental purposes represent a significant redirected impact that flies in the face of existing water law.

- CALFED needs to state in the "assurances" and "water management programs" that all regulatory environmental water released by upstream water users remains "environmental water". Environmental water can be credited to the Environmental Water Account (EWA) to be managed by the EWA according to EWA policies.

By rectifying "abandoned-surplus water" inequities, CALFED eliminates the perverse incentive for junior rights water holders to seek stricter environmental regulations in the areas of origin in order to receive surplus and abandoned water or higher quality water "for free" from senior water rights holders.

- CAFED fails to document sources of contamination, by basin, of drinking water supplies and provide meaningful water quality information throughout the drinking water system instead of just at Hood, and at the pumps. Without information by pollutant, (such as salinity), and by basin, and by water intake location; downstream water users are encouraged to use "source water" regulations to force source counties to clean up the exporters' drinking water.

CALFED's water quality approach seems to be that clean water from upstream will be used to flush pollution in the Delta and in the export areas. By not describing an "avoided cost" investment approach for source water quality, Cal-Fed encourages downstream

water users continue to maximize their own economic benefits from the upper watershed at the economic expense of local water users- for water quality as well as for water supply aspects of the Cal-Fed program. This shifting of responsibility for the exporters' water "reliability" problems is a significant redirected impact that Cal-Fed needs to address. Cal-Fed should develop cost-sharing mechanisms whereby downstream water users invest in upstream source control at their real "avoided" treatment costs.

- Regulatory enforcement and mandates on local governments in the upstream areas should not be used as mitigation for state and federal projects in the Delta. Lead agencies are responsible for fully mitigating the impacts of their projects. By relying on others to mitigate, the lead agencies are failing to take responsibility for their projects.

On page 5.3-4, CALFED states that, *"The potentially significant impacts related to the increased discharge of non-point source pollutants from growth induced by the Preferred Alternative are likely to be unavoidable."* Why is possible to address non-point pollution sources in the upstream areas, but not in the export areas where growth would be induced? The proposed water Quality Program will have a significant, adverse effect on rural transportation systems by hindering road maintenance activities. These activities are already under-funded in rural areas. Alternate methods to accomplish road maintenance tasks do exist, but they are far more expensive. Without additional funding, these impacts on County Road Departments would be significant, and should be mitigated.

The Plumas County Board of Supervisors would like to conclude their comments by recommending some improvements for the Watershed Program, as it is described in the PEIR/EIS, and by clarifying inaccuracies in the PEIR/EIS' characterization of the Upper Feather River.

WATERSHED PROGRAM RECOMMENDATIONS

(10) The Watershed Program should be defined in the PEIR/EIS to include all watersheds that contribute water to the Delta and receive water from the Delta.

(11) A successful CALFED Watershed Program must develop broad-based programmatic and funding linkages between the watershed program and CALFED's other programs and workgroups.

Committing (early in the program) to a watershed approach is the best way to articulate linkages and implement an integrated CALFED program. Whether watershed projects are urban, suburban or rural or whether they have more of a water quality or water use efficiency or environmental restoration emphasis, they should be integrated using an adaptive watershed approach. Watershed management links water use efficiency and water quality and environmental restoration by increasing overall watershed effectiveness in both urban and rural areas.

(12) Watershed projects should be funded at 40% or more of the total CALFED Watershed Program budget.

(13) The Watershed Program is part of the Common Program and should be funded at comparable levels with other Programmatic elements during the life of the CALFED Program.

Page 134. of the Implementation Plan states, *"One financing concern in the Watershed Program is how to help support local community participation and organization initially, but encourage self-sufficiency for program management and administration. One possibility would be to use mostly public funds for community development actions in the first 18 months to two years of implementation....By the end of Stage 1, the objective would be to have many successful, self-administered, and self-sufficient local watershed programs."* It appears that no other CALFED program is being asked to achieve self-sufficiency in the next two to seven years

(14) CALFED should afford small-scale projects the same programmatic attention and assistance as large-scale projects.

CALFED portrays watershed management and water use efficiency and water quality improvements as local benefits because the scale of such projects is usually local. CALFED assumes that the benefits of huge infrastructure projects are statewide because of the sheer size of such projects and because their price tags are so large.

CALFED needs to recognize that many small watershed based projects can cumulatively achieve large statewide benefits, often more quickly and often at lower risks and costs, than huge engineering fixes

(15)Watershed management should be linked to water management in the EIS/EIR, which currently they are not. (p.61, Phase 11 Report).

Watershed management should be included as part of all reservoir re-operation, conjunctive use studies and integrated storage studies. **Watershed management is linked to water management** because watershed management improves the existing water system while the proposed expansions of the existing water system are being studied and tested.

(16) CALFED needs to develop a reinvestment/fair share maintenance financing package that specifically addresses the watersheds above the dams.

- CALFED needs to incorporate the Sierra Nevada Ecosystem Project findings into the EIS/EIR Record.
- CALFED should devise a financial mechanism that assures that downstream water and hydroelectric beneficiaries pay for "fair-share maintenance" of the watershed that collect, store and purify the water that fills their dams.

- User Fees for the maintenance and rehabilitation of the watersheds "above the dams" should be developed proportional to the profits that downstream CVP and SWP users derive from their use of the watersheds that drain into the SWP and CVP dams.

- Deferred maintenance will require additional rehabilitation dollars over the next 30 years.

Reinvestment is a term used to describe the financial flows that are returned to a place by those that economically benefit from that place. The purpose of reinvestment is to maintain ecosystem health and function so that profitable resource uses can continue to be obtained from the environment with fewer conflicts between economic and environmental needs over time. Watershed health is another type of "capital asset" and maintaining natural capital (ecosystems), is integrated with, existing economic approaches for maintaining financial capital (savings and investment), and physical capital (infrastructure). For example, the annual value obtained from the world's ecosystem "services" exceeds 32 trillion dollars according to Robert Costanza from the University of Maryland. (American Forests, Autumn, 1998, p. 21) compared to an economic GNP of 18 million dollars.

In California, key water production watersheds catch and channel otherwise dispersed precipitation into often very expensive and elaborate water supply and hydropower production facilities. It is the combination of the "natural" (watershed) and manufactured (engineered) infrastructure that enables water and hydropower purveyors to produce significant wealth through water and power sales. Affordable water and hydropower in turn supports a vast array of other economic endeavors, in California, the 7th largest economy in the world.

Most water supply and hydropower purveyors are accustomed to investing a portion of their profits from their water sales into maintaining the ditches, dams, and turbines, pipelines that harness the watershed's runoff. Most water purveyors are just as **un**accustomed to making similar investments in the maintenance of the watersheds that actually collect the "favorable flows" that are harnessed for economic uses downstream. This is especially true in situations where the watersheds above the water supply or treatment facilities are not owned by the water purveyors themselves.

In California, a few water purveyors and a few hydroelectric utilities dedicate a portion of their operation and maintenance (O&M) budgets to watershed maintenance.

The Denver Water board, New York City, and the city of Seattle are experimenting with large reinvestment programs in watersheds where they are relatively minor landowners. Through partnerships with the other landowners in "their" water supply watersheds, these downstream water users are attempting to better conserve their water supplies through collaborative watershed stewardship.

The American Water Works Association (AWWA) Research Foundation, in a major watershed management study, found that "the most effective way to ensure the long term

protection of water supplies is through land ownership by the water supplier and it's cooperative public jurisdictions." Reporting on the 1991 study, the AWWA Journal notes that "the median percentage of the basin area owned by water utilities is only 2%"- which necessitates a cooperative, partnership approach among watershed land owners.

"The historic 1996 New York City Agreement, for example, recognizes farming and forestry as preferred land-uses for maintaining and protecting water quality in the Catskill/Delaware watersheds, which provide 90% of the City's drinking water. Through intense negotiations with landowner and community representatives from the upstream watersheds, city state and federal officials agreed to invest $1.5 billion in voluntary, incentive-based measures aimed at maintaining traditional forest and farming uses, improving land management practices, and updating community infrastructure such as roads and septic tanks in the rural areas." (Gray, 1999).

But in California, for most of the water source areas for the California State Water Project and the Central Valley Project, a "tragedy of the commons" best describes the relationship between the mostly federally owned watersheds and their downstream federal, state and private water users.

The value of federal lands as producers of high quality water has long been recognized, if not emphasized, in national policy. This national vision has not been translated into state policy that fosters collaborative watershed maintenance in California's source water watersheds -especially those that are federally owned. The 1905 legislation that created National Forests, did so for two purposes: a continuous supply of timber and for "favorable flows of water". (Adams, 1993) Since then, reinvestment mechanisms for National Forest maintenance have been developed for timber, recreation, forage obtained from the National Forests, but not for water yields. Instead of yield taxes or user fees, the maintenance of federal lands for favorable water yields (quality and quantity) has been borne by the US taxpayer. In an era of declining federal revenues, it is appropriate to question whether exempting water users from their "fair share" responsibilities for the maintenance of the watersheds that supply California's multimillion dollar water and hydro industry is good public policy.

The Congressionally authorized and funded Sierra Nevada Ecosystem Project (SNEP) quantified the value of water originating from the Sierra Nevada and compared the value of water to other natural resource outputs such as timber, recreation, grazing and mining. *"The Sierra Nevada ecosystem produces approximately $2.2 billion worth of commodities and services annually. Water accounts for more than 60% of that total value. Other commodities account for 20% as do services. Public timber and private recreation are the largest net contributors of funds to county governments both in total dollars and as a percentage of their total value. Around 2% of all resources are presently captured and reinvested into the ecosystem or local communities through taxation or revenue sharing arrangements. The declining status of some aspects of the Sierra Nevada ecosystem suggest that this level of reinvestment is insufficient to ensure sustainable utilization of the ecosystem.... The flow of economic values from the Sierra Nevada provides an empirical basis for assessing how different levels of government; producers and consumers; and employers and employees could be involved in new approaches."* (SNEP Final Report to Congress, vol. III, Assessment Commissioned Reports, and Background

Information. Davis: University of California, Centers for Water and Wildland Resources, 1996. "Economic Assessment of the Ecosystem" Chapter 23., p.974).
"The estimated annual value of the right to divert water from the Sierra is approximately $1.5 billion." (SNEP. vol. 111, Chap.23, p.1019)
Municipal water supply and hydropower interests reap more than 1.32 billion dollars annually in profits from favorable flows from Sierran headwaters, but they pay essentially nothing for watershed maintenance. Conversely, the timber industry pays a disproportionate (to profits) share for public forest maintenance. The taxpayers, especially the federal taxpayers, continue to pay for the most of the costs for the maintenance of Sierran federal forests and National parks, while California's water and hydropower interests continue to reap large financial benefits from the watershed health investments made by other watershed users. As the SNEP report's economic analysis section concludes, *"In terms of funds that could potentially be reinvested into the ecosystem and communities, around 2% of all resource values are presently captured through federal, state and county governments. Although this tally does not account for private reinvestments or other federal or state appropriations, it does suggest that additional mechanisms to promote reinvestment are necessary to maintain and enhance the Sierra Nevada ecosystem so that it can continue to provide socially desired outputs. The status of many components of the Sierra Nevada ecosystem suggests that this level of funding is insufficient to assure long term production at current rates....The core of the under investment problem is straightforward. The ecological and community assessments in this report suggest that sustaining and enhancing the Sierra Nevada ecosystem will require massive and directed investment of time and money. Compared to the size of the local communities and the value of the natural assets, the cost is small." (Ibid. p.1057)*
Reinvesting in the maintenance of the "natural infrastructure" of the Sierra Nevada has not occurred for the following reasons, according to SNEP.
" The investment is not forthcoming for four primary reasons:

1. *Many attributes of the ecosystem are not valued in a manner that motivates investment.*
2. *Restrictions on exchange prevent value formation for aspects of the ecosystem that generate economic benefit.*
3. *Barriers between agencies and governments prevent efficient responses to economic values where these are known.*
4. *Localities lack the capacity to capture economic surpluses they generate and to then invest these surpluses for ecosystem health and social well-being.*

These problems can be addressed with different kinds of institutional resolutions. Where the attributes are not valued in a manner that motivates investment, new boundaries can create the constituencies so that potential exchanges will yield their full value. Where restrictions on exchange restrict economic value formation, arrangements can be created to open opportunities for trade. Where barriers within and among governments prevent efficient responses to economic values, cooperative agreements can be formed to lessen these barriers. Where localities lack capacity to capture and invest economic surpluses, new local organizations can provide the necessary structure." (SNEP "Economic Assessment of the Ecosystem". P.1057.)

UPPER FEATHER RIVER RECOMMENDATIONS

The CALFED EIS/EIR document recognizes that the Feather River is one of the two major tributaries of the Sacramento River along its lower reach. It states that the Feather River contributes an averaged unimpaired flow of 4.5 MAF to the Sacramento River Region which in turn has a total averaged flow of 17.9 MAF into the Delta. Lake Oroville was constructed as the major storage facility for the State Water Project in the 1960's.

The EIS/EIR document fails to provide evidence to support the assumption that the upper Feather River and its tributaries have no impact on the Bay-Delta. The PEIS/EIR states in Appendix a-9 of The Ecosystem Restoration Program (ERP) that upper watershed degradation is not a problem for CALFED as long as the *"Lake Oroville reservoir continues to trap sediment and regulate flow"*.

The upper Feather River watershed includes 3,222 square miles of land base that drains west from the crest of the northern Sierra Nevada into the Sacramento River located primarily in Plumas County, the watershed also drains portions of Lassen, Tehema, Butte and Sierra Counties. Annual runoff produced from this watershed provides over 1,400 MW of hydroelectric power, and represents a significant component of the State Water Project, annually providing 3.2 million-acre feet (MAF) of water for urban, industrial and agricultural consumers downstream. The quantity, quality and timing of California's water supply is dependent, in part, upon the condition of source watersheds such as the Feather River basin (Wilcox and Lindquist 1999).

In 1978, the average inflow of sediment to Lake Oroville was 800 acre-feet or 1.6 tons/year and the sediment contributing drainage area of Lake Oroville was 3,015 miles (Porterfield 1978). Lake Oroville's sediment trap efficiency is assumed to be 100% by CALFED.

The East Branch of the North Fork of the Feather River contributes 60% of the sediment to Lake Oroville. The Middle Fork and the South Fork of the Feather River contribute approximately 30 and 4%, respectively. The Feather River basin's sediment yield has been estimated to have increased 300% (Benoit, 1983). Approximately, 64% of the EBNFFR's stream channels are in a degraded state, and as much as 152,000 acres of wetlands, meadows, and rangeland are in similar condition (Cilfton 1994). Erosion and sedimentation is occurring at a rapid rate. Studies should be conducted to extrapolate the probable sediment load into Lake Oroville over the next 30 years.

The Department of Water Resources (DWR) states the total dead storage pool space at Lake Oroville is 29,638 acre-feet and the total maximum operating storage is 3,537,577 acre-feet. The Oroville Dam traps an average total sediment discharge of 3,3730 tons daily. DWR estimates approximately 1.3 million tons/year of sediment is trapped in Lake Oroville. DWR concluded from their siltation studies in 1971 and 1993-1994, that 18,200 acre-feet or 30 million cubic yards of sediment was deposited into Lake Oroville (Pages 1 and 9, Porgans and Associates, 1997). In 1994, DWR surveyed nine-cross sections to measure the deposition of sediment into Lake Oroville for the past 25 years. DWR concluded that an average lake bottom depth of deposition in the thalweg was

about 15 feet, equivalent to about 0.7 feet per year. The survey showed that channel erosion occurred in the upper and lower reaches of the reservoir arms. DWR further concluded that the sediment that entered Lake Oroville from the North Fork arm is about 10,500 acre-feet and the Middle Fork arm is about 7,700 acre-feet. The amount of sediment derived from reservoir bank erosion is estimated to be about 6,500 acre-feet (Porgans, 1997).

DWR studies indicate how much measurable sediment is going into Lake Oroville. Actual rates are highly affected by the technical limits of the measurement technology used in the DWR study. An alternative approach is to estimate sediment loads from smaller, more easily measured reservoirs.

Since the early 1980's, PG&E has experienced operational problems at its hydroelectric facilities, Rock Creek and Cresta, due to sedimentation aggravated by accelerated erosion of the North Fork Feather River watershed. There are three dams on the East Branch of the North Fork Feather River (EBNFFR) upstream of Lake Oroville. They are Rock Creek, Cresta and Poe Dams. The sediment trap efficiencies, which is the percentage of sediment delivered to a reservoir that is retained, were calculated as 18, 12 and 0%, respectively. Approximately, 5.4 million cubic yards of sediment have been deposited in Rock Creek and Cresta Reservoirs since they began operation in 1949 and 1950, respectively (Lindquist, Bowie and Harrison, 1997). Rock Creek and Cresta sediment trap efficiencies are 18 and 12%, respectively, which means most of the sediment from the Feather River watershed is transported downstream to Lake Oroville.

The sediment threshold of Lake Oroville has not been determined and disclosed in the Document. CALFED has not provided documentation for the assumption that all of the sediment is sitting in the dead pool storage space. Conventional hydrologic logic would predict that the sediment is accumulating in river inlets and actually affecting usable annual, carry-over and flood storage in Lake Oroville. The EIS/EIR document provides no evidence validating its conclusion that sedimentation is not a problem in Lake Oroville.

According to U.S. Geological Survey (USGS), the construction of dams and impoundments on streams affects the natural patterns of sediment transport. The transport capabilities of the flows discharged to down stream channels may cause scour or deposition of sediment and corresponding channel changes as the stream adjust to the modified flow conditions. Thus, construction of Oroville Dam caused significant changes in the characteristics of the flow downstream (Page 3, Porgans and Associates, 1997). The EIS/EIR document fails to disclose if Lake Oroville's regulated flow will detrimentally affect down stream property now and for the next 30 years as flood storage capacity in the reservoir is lost to sedimentation.

USGS attributes accelerated erosion and channel scouring of stream channels downstream of Lake Oroville to clear water discharges from Lake Oroville. Clear water discharges have a greater competence to erode and transport sediments than does silt-laden water (Page 15, Porgans and Associates, 1997). Trapping all of the sediment of

Lake Oroville could cause downstream erosion and changes in flow. The PEIR/EIS assumes that Lake Oroville will continue to regulate flow for the next 30 years without providing documentation that this statement is valid.

Much of the state's water supply flows from the Sierra Nevada. The CALFED EIS/EIR document ignores the upper Feather River watershed as an important source (collection system) for water for over 20 million downstream water users.

The SNEP Report documents that the Feather watershed has the highest rates of erosion in the Sierra Nevada range. The Feather River watershed has deteriorated since the late 1800's due to cumulative resource degradation such as Gold Rush -era mining and beaver trapping, the post world war logging boom of the mid 1950's to 80's, extensive grazing by sheep and cattle in the late 1800's, and early 1900's road building practices.

To help solve the Rock Creek and downstream reservoir sedimentation problems, the 21 entity Feather River Coordinated Resource Management (FRCRM) group was formed in 1984. A demonstration project to restore Red Clover Creek was initiated in 1985. The goal of the project was to reduce streambank erosion, raise the groundwater table, trap sediments and improve fish and wildlife habitat. The demonstration project successfully achieved its objectives. The four loose rock check dams stabilized the site, providing more diverse and desirable habitat for fish and wildlife, improved hydrologic characteristics of the channel, increased groundwater storage, enhancing vegetation cover, and initiating vegetation conversion from xeric to mesic site species (Lindquist, Bowie and Harrison). The trout and waterfowl numbers increased 200 and 700%, respectively, while mesic meadow vegetation cover increased nearly 60%. The shallow groundwater table at the highest check dam increased 5.1 feet while seasonal fluctuations in groundwater levels were significantly reduced (Plumas Corporation, 1999).

After almost 15 years of experience with the Red Clover project, and many other erosion control and fish and wildlife habitat improvement projects, the FRCRM has recognized that restoration of hydrologic function in degraded meadows is a major component for improving overall watershed function. Properly functioning meadows, wetlands and riparian areas have major effects on surface and subsurface flow regimes and can influence reservoir operations and water users and land owners far downstream and far removed from the "source" watershed. The FRCRM has determined that the primary causes of erosion in the watershed is eroding stream channels and the primary cause of stream bank erosion in the Feather River watershed is the disconnection of the channel from its historic floodplain (meadows).

The FRCRM has demonstrated a new geomorphic approach on several alluvial meadow projects. One such project is the Cottonwood Creek/Big Flat Meadow project. To re-water Big Flat Meadow, a stream meander reconstruction approach with grazing management changes was implemented in a 47 acre meadow. Preliminary results indicate that the successful reconnection of the meandering channel to its naturally evolved floodplain has extended the period of stream flow, moderated the magnitude and duration of peak flow events, and reduced seasonal ground water fluctuations, and

prolonged summer baseflows in the project area and downstream in Last Chance Creek (Lindquist and Wilcox, 1999). Peak flood flow events have been moderated in the project area by the meadow restoration project. (Planning and Conservation League, 1999).

In 1997, a study was conducted to determine if peak flood flows in the Indian Creek Valley could be reduced by increasing detention storage in upland valleys through restoration of floodplain function. The results of the study indicate that restoring floodplain function in the major upland valleys in the East Branch of the Feather River could reduce flood peak flows downstream by approximately 7% (Meadowbrook Conservation Associates, 1997).

Investing in watershed improvements on a watershed wide scale in the Feather River watershed could provide an additional 250,000 acre-feet or 7 percent more of **useable** water annually to downstream users (Bond 1997, Kattelmann 1987) through enhanced reservoir operation flexibility. Baseflow augmentation will increase the magnitude and duration of low flows for the benefit diverse local and downstream users. Management strategies include range management, upland vegetation management, riparian vegetation management, upland runoff detention and retention, and the use of instream structures (Ponce and Lindquist, 1990.

The FRCRM's restoration projects provide evidence that the upper Feather River's erosion problems can be remediated to improve flows, water quality, flood control and hydroelectric power generation for down stream users. For these reasons, the Feather River watershed restoration "above the dams" should be considered a major component in the Integrated Storage Investigation, reservoir re-operation studies, and conjunctive use studies and projects proposed in the Stage 1 Actions in the PEIR/EIS as well as continuing to be considered for funding under the CALFED Watershed Program.

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Table 3-8. Summary of Potentially Significant Adverse Cumulative Impacts

RESOURCE	PROGRAM REGION				
	DELTA	BAY	SACRAMENTO RIVER	SAN JOAQUIN RIVER	OTHER SWP AND CVP SERVICE AREAS
Water supply and water management	✓	✓	✓	✓	✓
Bay-Delta hydrodynamics and riverine hydraulics	✓	✓	✓	✓	
Water quality	✓	✓	✓	✓	✓
Groundwater resources	✓	✓	✓	✓	✓
Geology and soils	✓	✓	✓	✓	
Noise	✓	✓	✓	✓	
Transportation	✓		✓	✓	
Air quality	✓	✓	✓	✓	
Fisheries and aquatic ecosystems	✓	✓	✓	✓	
Vegetation and wildlife	✓	✓	✓	✓	
Agricultural land and water use	✓		✓	✓	
Urban land and water use	✓	✓			
Utilities and public services	✓		✓	✓	
Recreation resources	✓	✓	✓	✓	
Flood control	✓		✓	✓	
Power production and energy	✓	✓	✓	✓	✓
Cultural resources	✓	✓	✓	✓	
Public health and environmental hazards	✓	✓	✓	✓	
Visual resources	✓	✓	✓	✓	